

Sangfor HCI

Health Check Report

Version 01

Date {{now\_time}}

Document Information

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Sangfor Technologies

Preface

Dear ,

Thanks for your continuous support and help. Your company is a key customer of Sangfor. On , we conducted health check on running Sangfor devices, aiming at ensuring our devices better serve your business demands and detecting and resolving potential issues in advance. Details of the health check are provided in this report.

Thanks for your cooperation.

**Contents**

[Document Information 2](#_Toc31663)

[Non-Disclosure Agreement 3](#_Toc12991)

[Preface 4](#_Toc2937)

[1 Overview 1](#_Toc22905)

[1.1 Health Check Scope 1](#_Toc12579)

[1.2 Contact Information 1](#_Toc18071)

[1.3 Objectives 1](#_Toc19601)

[1.4 Icon Conventions 1](#_Toc21649)

[1.5 Check Entities 1](#_Toc26620)

[2 Summary 6](#_Toc32747)

[2.1 Basic Information 6](#_Toc1082)

[2.2 Platform hardware special detection 6](#_Toc2790)

[2.2.1 Node CPU 6](#_Toc5192)

[2.2.2 Node Memory 7](#_Toc22366)

[2.2.3 Disk SMART 7](#_Toc2586)

[2.2.4 HDD Health 8](#_Toc28886)

[2.2.5 SSD Health 8](#_Toc9986)

[2.2.6 System Disk 9](#_Toc20431)

[2.2.7 RAID Card Health 10](#_Toc5160)

[2.2.8 Node Interface 10](#_Toc26834)

[2.3 Summary of Issues 11](#_Toc11239)

[2.4 Issues of HCI Hardware Health 11](#_Toc27867)

[2.5 Issues of HCI Hardware Compatibility 11](#_Toc25368)

[2.6 Issues of HCI Storage Health 12](#_Toc3588)

[2.7 Issues of Key HCI Services 12](#_Toc31109)

[2.8 Issues of System Configurations 12](#_Toc29347)

[2.9 Issues of VM Health 13](#_Toc4889)

[2.10 Issues of HCI Network 13](#_Toc4661)

[2.11 Issues of HCI Service Packs 13](#_Toc10133)

[2.12 Issues of HCI Security 14](#_Toc21199)

[3 HCI Resources 15](#_Toc25795)

[3.1 HCI Resource Details 15](#_Toc13037)

[3.1.1 Node Resources 15](#_Toc16266)

[3.1.2 Node Load 15](#_Toc27347)

[3.1.3 Cluster CPU, Memory, and Disk Resources 16](#_Toc4683)

[3.1.4 Scalable Resources 16](#_Toc2524)

[3.1.5 Virtual Storage Resources 16](#_Toc23402)

[3.1.6 Other Storage Resources 17](#_Toc30576)

[3.1.7 Backup Repository 18](#_Toc1274)

[3.1.8 License Key Validity 18](#_Toc15480)

[3.1.9 System Partition 18](#_Toc9949)

[3.2 VM Resource Details 18](#_Toc24958)

[3.2.1 VM Overview 18](#_Toc32477)

[3.2.2 CPU, Memory, and I/O Usages of High-Priority VMs 19](#_Toc20200)

[4 Solutions 20](#_Toc30340)

[5 Appendix 21](#_Toc18410)

[5.1 Technical Support 21](#_Toc3261)

1. Overview
   1. Health Check Scope

The health check is applicable to HCI products, covering entities such as system services, configurations, hardware health, logs, network, licensing, and databases and VMs with high resource usage deployed by the customer on HCI.

* 1. Contact Information

|  |  |  |  |
| --- | --- | --- | --- |
| Company Name |  | | |
| Contact Name |  | Contact Number |  |
| Check Performed By |  | Phone Number |  |
| Checked On |  | | |

* 1. Objectives

The objectives of this health check are as follows:

Its main objectives are to:

* Provide an assessment and summary of health conditions of the customer's HCI;
* Offer suggestions on the performance, management, and scaleup of the customer's HCI.
  1. Icon Conventions

This health check report adopts the following icons to indicate the status of check entities.

|  |  |  |
| --- | --- | --- |
| No. | Icon | Meaning |
| 1 |  | Passed: The entity has passed the check. |
| 2 |  | Failed: The entity has a critical issue that needs to be fixed as soon as possible. |
| 3 |  | Alert: The entity has a potential issue that is less important but may affect business if not fixed. |
| 4 |  | No data available. |

* 1. Check Entities

The following table lists all the entities to be checked.

|  |  |  |
| --- | --- | --- |
| Entity | Sub-entity | Description |
| Platform hardware special detection | Node CPU | Check the model, speed, usage, temperature, microcode, and VT-x of node CPU. |
| Node Memory | Check the I/O performance, usage, and ECC alerts of node memory, and check whether memory is normal, swap space is used, and memory resources are released, check whether the host memory  supports ECC |
| Disk SMART | Check the SMART information about the disk, focusing on media\_error and critical\_warning, as well as HDD RAID configuration. |
| HDD Health | Check whether the HDDs of nodes are online, whether the RPM of a single HDD meet the minimum requirements. |
| SSD Health | Check whether the SSDs of nodes are online, whether the interface, temperature, lifetime, and performance of a single SSD meet the requirements, and whether HCI supports the discard (TRIM) command. |
| System Disk | Check the lifetime and status of the system disk, as well as the I/O speed. |
| RAID Card Health | Check the status and mode of the RAID card, check for compatibility SPs of the RAID card, detecting whether the RAID card supports hot swap |
| Node Interface | Check whether the node interface has packet loss issues, whether the interface is in full-duplex mode, whether the negotiated rate of the interface is the same as its actual rate, whether the network cable is properly plugged, and whether the transfer rate meets the requirements. |
| Hardware Health | Node Status | Check whether nodes are online. |
| RAID Card Log Detection | Check if there are hardware errors in the RAID card log. |
| Kernel Log Detection | Check if there are hardware errors in the kernel log. |
| BMC version Detection | Check whether the host BMC version is faulty |
| CPLD version Detection | Check whether the host CPLD version is faulty |
| Cluster Resource Usage | Check the memory, CPU, storage, and other resources of the cluster. |
| High Performance Mode of Node VXLAN Interface | Check whether the VXLAN interface on the node works properly in high performance mode. |
| HCI Platform IPMI | Check specified 43 entities based on the obtained IPMI information. |
| System Restart upon Error Occurrence | Check the node system for restart upon error occurrence. |
| Disk Order | Check for disk disorder issues. |
| Kernel Effectiveness After Upgrade | Check when the kernel takes effect after node upgrade. If the kernel does not take effect, provide recommendations and corresponding measures. |
| Password card hardware detection | Check if the password card hardware is working properly. |
| FeiTian Key short time no power detection | Check if the KEY SN in the environment is within the risk number range |
| Motherboard hardware detection | Check the motherboard hardware |
| Burn in detection | Check the Burn-in Test |
| Interface Driver | Check Interface Driver version |
| Kernel Log Warn | Check hardware warn in kernel log |
| Server power module detection | Detect the risk of capacitors oxidizing in server power modules that have not been powered on for more than 2 months. |
| CC6 detection is enabled for servers with Haiguang CPU architecture | Check if servers with the Haiguang series CPU architecture have enabled cc6 (Core C6). |
| FC external storage abnormality triggers raid card stuck detection | Detect if FC external storage abnormalities cause the RAID card to freeze. |
| USB KEY Disconnection Risk | Check the risk of USB KEY Disconnection |
| Hardware Compatibility | CPU Compatibility | Check the compatibility of current CPUs based on the existing blacklist. |
| Disk Compatibility | Check the disk compatibility. |
| NIC Compatibility | Check the NIC compatibility. |
| RAID Card Compatibility | Check the RAID card compatibility. |
| Check Ningchang GPU Server | Compatibility testing of A16 graphics card on Ningchang server. |
| Storage Health | Virtual Storage Disk | Check whether the storage usage, storage status, data disks, and cache disks have encountered an error. |
| Virtual Storage Replica | Check whether an error has occurred in virtual storage replicas. |
| Virtual Storage | Check the usage and remaining space of virtual storage. |
| External Storage | Check the usage, remaining space, ATS, and status of external storage. |
| Backup Repository | Check the total space, usage, and remaining space of the backup repository. |
| Samba Storage | Check whether Samba storage is normal. |
| Status of Virtual Storage Container | Check whether the virtual storage container is normal. |
| Virtual Storage Environment | Check whether the virtual storage environment is normal. |
| Virtual Storage Monitoring Service | Check the virtual storage monitoring service status and configuration file. |
| Virtual Datastore Configuration | Check if there are any abnormal configurations related to the virtual datastores. |
| Residual information check after shrinking | Check if there are any residual information after shrinking. |
| Virtual Datastore Log | Check if there are any abnormal logs related to the virtual datastores. |
| Virtual Datastore Path | Check if there are any abnormal paths related to the virtual datastores. |
| Witness Nodes | Check whether there are witness nodes in 2-node cluster |
| Check whether the glusterfs process status is T | Check if the glusterfs process is in the T (Terminated) state. |
| Virtual Storage Service Status | Check whether the virtual storage service is normal. |
| Virtual Storage Hard Disk Compatibility | Check the compatibility issues of the hard disk used for virtual storage. |
| IP Address for Access Across Datastores | Check if configured IP address for access across datastores. |
| Key Services | Services | Check whether HCI services run properly. |
| vtpcron service memory leak detection | Detect if the vtpcron service has a memory leak. |
| System Configurations | System Partition Usage | Check whether the usage of key disk partitions of HCI is normal. |
| HCI Official External Version | Check if the current version of the cluster is an official version released to the public |
| Configuration Profile | Check whether the HCI configuration profile is complete and normal. |
| License Key Validity | Check the validity of the HCI license key. |
| Management Interface | Check whether the configuration of the management interfaces has encountered an error. |
| Overlay Network Interface | Check whether the configuration of the overlay network interfaces has encountered an error. |
| VM Backup | Check whether backup is enabled for VMs on HCI, and check the number of backed-up VMs. |
| Disk configuration | Check the issue where the ID in the virtual machine disk configuration is in virtio format, causing the UI to be unable to handle it |
| CDP | Check whether CDP is enabled, and the ratio of VMs with CDP enabled to total VMs. |
| Node Configuration | Check the interface configuration, and check whether the storage area network is deployed in the mode with link aggregation disabled. |
| HCI Configuration | Check the configurations of CPU, memory, IP address for platform connectivity test, email alerts, and SMS alerts. |
| NFV Device Deployment | Check whether the NFV template is compatible with the current HCI version. |
| HCI Version | Check whether the HCI version is a specific version or an delisted version. |
| acenter.json File in /cfs Directory | Check whether the acenter.json file in the /cfs directory has encountered an error. |
| Syslog/SNMP Status | Check whether syslog/SNMP is normal. |
| Shared Disk Configuration | Check whether the configuration of shared disks has encountered an error. |
| Custom package detection | Detect whether custom packages skip checks |
| Platform operating system authorization information detection | Detect whether the cluster activates the authorization of the platform operating system |
| Phytium environment network configuration detection | Detect the platform network configuration of the host computer with Phytium CPU |
| Phytium environment CPU NUMA NODE detection | Detect the CPU NUMA node of the host computer with Phytium CPU |
| Upgrade directory residual files detection | Detect the residual files in upgrade directory |
| Virtual storage SSD hard disk detection | Check whether there are any alarms on the SSD hard disk after upgrading the SSD firmware patch |
| Migration router session table synchronization failure detection | Detect the issue of migration router session table synchronization failure. |
| Detect fd leak in vn-node-agent-api service | After detecting the file descriptor memory leak in the vn-node-agent-api service, the interface cannot be called, leading to an upgrade failure. |
| X722/X710 network card cross mixing detection | The risk of network card down and high latency exists when cross-using X722/X710 network cards. |
| Virtual machine CPU core configuration detection | |  | | --- | | Check whether the number of virtual machine cores is odd | |
| Check whether there is a specific version in the upgrade path | Check if the upgrade path for a specific version exists in /boot/firmware/history. |
| Nested virtualization virtual machine migration fault detection | Check whether there are some hosts in the cluster that have not enabled the nested virtualization feature, which causes HA during virtual machine migration |
| AMD or Hygon CPU host Nested virtualization detection | Check whether the host with AMD or Haiguang CPU has the nested virtualization feature enabled |
| Check for brief IO lag issues with commands | Check if a specific vendor’s RAID card exists in the environment. |
| vCPU compatibility detection | Check vCPU compatibility in the environment |
| Check vlink loss | Check if there are any missing vlinks in the environment. |
| IPinIP session detection | Check IPinIP session in the environment |
| sffs cluster file system causes downtime detection | Check if the sffs cluster file system causes server downtime. |
| Failure detection of cloning base image after VMP version upgrade | Detect if VMP version upgrades result in failed cloning of base images. |
| Check if reboot the host lead to abnormal detection in Kafka | Check if reboot the host lead to abnormal detection in Kafka |
| VM Health | VM Resource Usage | Check whether the memory usage and CPU usage of VMs are too high. |
| VM Backup Repository | Check the backup repository, CDP, and storage I/O performance. |
| VM Configuration | Check whether vmTools is installed, and whether restart upon fault occurrence, whether start HA and memory reclaiming are enabled for VMs,  Important VM Disk Storage Policy Detection. |
| VM Running Across Datastores | Check the virtual storage disk usage, the ratio of cache disks, and disk online status. |
| Virtual machine running configuration detection | Detect the process configuration and file configuration of the running virtual machine. |
| Virtual machine uses recycle bin disk detection | Detect whether disk files in the recycle bin are used by running virtual machines |
| Virtual Machine Disk Snapshot Detection | Detecting whether there is a risk of data loss in virtual machine disk snapshots |
| GPU virtual machine status detection | Check for abnormalities in the state of GPU virtual machines. |
| Detection of abnormal communication between virtual machines due to NAT resource allocation | Detect if NAT resource allocation causes communication issues in virtual machines. |
| Virtual machine VMware migration anomaly detection | Check for abnormalities during VMware virtual machine migration. |
| Detection of virtual machine HA issues caused by backup failur | Detect if backup failures cause HA (High Availability) issues in virtual machines. |
| Storage snapshot causes virtual machine startup failure detection | Check if storage snapshots cause virtual machine startup failures. |
| VMP upgrade causes virtual machine migration HA failure detection | Detect if VMP upgrades result in failed HA (High Availability) virtual machine migrations. |
| Traffic mirroring residue causes vlink delivery failure detection | Check if residual traffic mirroring causes vlink (virtual link) configuration failures. |
| Detection of virtual machine data loss caused by deleting external disk snapshots | Detect if deleting external disk snapshots causes virtual machine data loss. |
| The virtual machine network card is rtl8139 type detection | Detect if virtual machine network cards are of the rtl8139 type and issue a risk warning. |
| "When CBT is enabled, hot migration across hosts causes HA detection of virtual machines | Detect if enabling CBT (Change Block Tracking) during cross-host hot migration causes virtual machine HA (High Availability). |
| The vlink detection does not exist when the virtual machine is powered on | Detect if powered-on virtual machines lack a vlink (virtual link) and issue a risk warning. |
| Virtual machine’s ineffective configuration disk image path anomaly detection | Check for inactive configurations of the virtual machine and whether there are any inconsistencies in the virtual machine's disk configuration. |
| Network Health | Physical Network | Check whether an error has occurred on the physical network. |
| Virtual Network | Check whether an error has occurred on the virtual network. |
| Network Environment | Check whether an error has occurred in the network environment. |
| NIC packet anomaly detection | Check whether there are any abnormalities in the network card packets sent in the environment |
| Firewall rule anomaly detection | Detect if firewall rules are abnormal and issue a risk warning. |
| Detection of too many host forwarding sessions | Detect if the host forwards too many sessions and issue a risk warning. |
| Network sub health configuration | Detection of network sub health configuration |
| Service Packs | Service Packs | Check for service packs. |
| Discontinued Patches | Check for discontinued patches. |
| Cluster patched | Check for cluster patched |
| Platform Security | Password Validity | Check whether the password is within its validity period. |
| Port Management | Check whether the port is enabled. |
| Account Login Time | Check the account login time. |
| VMs on Which JG SPs Failed to Take Effect | Check for VMs on which JG SPs did not take effect. |
| SP Service Connectivity | Check the SP service connectivity. |

1. Summary
   1. Basic Information

|  |  |
| --- | --- |
| Cluster Version | {{version}} |
| Checked On | {{now\_time}} |
| Licensing | {{keyid}} |
| Node IP | {{host\_ip}} |
| Tool Version | {{version\_build\_time}} |

* 1. Platform hardware special detection

The table below lists detected issues of HCI node hardware, covering CPU, memory, SSD, HDDs, RAID cards, and interfaces. Corresponding recommendations are also provided.

* + 1. Node CPU

Check the model, speed, usage, temperature, microcode, and VT-x of node CPU.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Host | CPU Model | CPU Threads | CPU Microcode | CPU Clock Speed | CPU usage | CPU Temperature | CPU Instruction | CPU Frequency Reduction | Impact and Recommendations |
| {%tr if “cpu”in hardware\_health\_check\_que%} | | | | | | | | | |
| {%tr for item in hardware\_health\_check\_que.cpu%} | | | | | | | | | |
| {{item.host}} | {{item.cpu.i}}{{r item.cpu.v}} | {{item.cpu\_thread.i}}{{r item.cpu\_thread.v}} | {{item.cpu\_microcode.i}}{{r item.cpu\_microcode.v}} | {{item.cpu\_clock\_speed.i}}{{r item.cpu\_clock\_speed.v}} | {{item.usage\_ratio.i}}{{r item.usage\_ratio.v}} | {{item.cpu\_temp.i}}{{r item.cpu\_temp.v}} | {{item.cpu\_virtual\_support.i}}{{r item.cpu\_virtual\_support.v}} | {{item.cpu\_frequency.i}}{{r item.cpu\_frequency.v}} | {{r item.suggestion}} |
| {%tr endfor%} | | | | | | | | | |
| {%tr else %} | | | | | | | | | |
| No issue exists | | | | | | | | | |
| {%tr endif%} | | | | | | | | | |

* + 1. Node Memory

Check the I/O performance, usage, and ECC alerts of node memory, and check whether memory is normal, swap space is used, and memory resources are released, check whether the host memory supports ECC

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Host | Model | Memory Vendor | Memory Size | | Memory Frequency | | Memory usage | IO Read/Write Speed | ECC Memory | Memory Supports ECC Detection | Impact and Recommendations |
| {%tr if “memory”in hardware\_health\_check\_que%} | | | | | | | | | | | |
| {%tr for item in hardware\_health\_check\_que.memory%} | | | | | | | | | | | |
| {{item.host}} | {{item.model.i}}{{r item.model.v}} | {{item.mem\_manufacturer}} | | {{item.mem\_total\_size.i}}{{r item.mem\_total\_size.v}} | {{item.check\_speed.i}}{{r item.check\_speed.v}} | {{item.mem\_ratio.i}}{{r item.mem\_ratio.v}} | | {{item.io\_speed.i}}{{r item.io\_speed.v}} | {{item.check\_ECC.i}}{{r item.check\_ECC.v}} | {{item.support\_ecc.i}}{{r item.support\_ecc.v}} | {{r item.suggestion}} |
| {%tr endfor%} | | | | | | | | | | | |
| {%tr else %} | | | | | | | | | | | |
| No issue exists | | | | | | | | | | | |
| {%tr endif%} | | | | | | | | | | | |

* + 1. Disk SMART

Detecting smart information on disks, including obtaining smart information, health status, detection item status, disk bad sectors, mapped sector alarms, Uncorrectable errors, sector counts that cannot be corrected offline, Ultra ATA Access verification error rate, media errors, major alarms, error alarms, and temperature. Disk power-on time, stall delay, temporary isolation, and permanent isolation. This check item displays only the items that the disk has a problem with.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Host | Model | Serial number | Check Item | Current value | Reference value | Impact and Recommendations |
| {%tr if “smart\_info” in hardware\_health\_check\_que%} | | | | | | |
| {%tr for host, host\_dict in hardware\_health\_check\_que.smart\_info.items()%} | | | | | | |
| {%tr for sn, smart\_dict in host\_dict.items()%} | | | | | | |
| {%tr for item in smart\_dict%} | | | | | | |
| {%vm%}{{host}} | {%vm%}{{smart\_dict[0].model.value}} | {%vm%}{{sn}} | {{item.check\_item}} | {{item.cur\_value.i}}{{r item.cur\_value.v}} | {{item.ref\_value}} | {{r item.suggestion}} |
| {%tr endfor%} | | | | | | |
| {%tr else %} | | | | | | |
| No issue exists | | | | | | |
| {%tr endfor%} | | | | | | |
| {%tr endfor%} | | | | | | |
| {%tr endif%} | | | | | | |

* + 1. HDD Health

Check whether the HDDs of nodes are online, whether the utilization and RPM of a single HDD meet the minimum requirements.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Host | Model | Firmware version | Capacity | | Disk Name | | Disk Status | Disk RPM | DISK power on hours | Impact and Recommendations |
| {%tr if “hdd”in hardware\_health\_check\_que%} | | | | | | | | | | |
| {%tr for item in hardware\_health\_check\_que.hdd%} | | | | | | | | | | |
| {{item.host}} | {{item.model.i}}{{r item.model.v}} | {{item.firmware}} | | {{item.capacity}} | {{item.disk\_obj}} | {{item.disk\_status.i}}{{r item.disk\_status.v}} | | {{item.rotate\_rate.i}}{{r item.rotate\_rate.v}} | {{item.power\_on\_hours.i}}{{r item.power\_on\_hours.v}} | {{r item.suggestion}} |
| {%tr endfor%} | | | | | | | | | | |
| {%tr else %} | | | | | | | | | | |
| No issue exists | | | | | | | | | | |
| {%tr endif%} | | | | | | | | | | |

* + 1. SSD Health

Check whether the SSDs of nodes are online, whether the utilization, interface, temperature, lifetime, and performance of a single SSD meet the requirements, and whether HCI supports the discard (TRIM) command.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Host | SSD Compatibility | SSD Name | SSD Firmware | | SSD Status | SSD Cache Disk Capacity | SSD Operation Mode | | SSD Temperature | | SSD Remaining Lifetime | | Discard Supported or Not | | Impact and Recommendations | |
| {%tr if “ssd”in hardware\_health\_check\_que%} | | | | | | | | | | | | | | | | |
| {%tr for item in hardware\_health\_check\_que.ssd%} | | | | | | | | | | | | | | | | |
| {{item.host}} | {{item.SSD\_compatibility.i}}{{r item.SSD\_compatibility.v}} | {{item.SSD\_obj}} | | {{item.SSD\_firmware.i}}{{r item.SSD\_firmware.v}} | {{item.SSD\_status.i}}{{r item.SSD\_status.v}} | {{item.SSD\_cache\_size.i}}{{r item.SSD\_cache\_size.v}} | {{item.SSD\_negotiation\_mode.i}}{{r item.SSD\_negotiation\_mode.v}} | {{item.SSD\_temperature.i}}{{r item.SSD\_temperature.v}} | | {{item.SSD\_lifeper.i}}{{r item.SSD\_lifeper.v}} | | {{item.discard\_support.i}}{{r item.discard\_support.v}} | | {{r item.suggestion}} | |
| {%tr endfor%} | | | | | | | | | | | | | | | | |
| {%tr else %} | | | | | | | | | | | | | | | | |
| No issue exists | | | | | | | | | | | | | | | | |
| {%tr endif%} | | | | | | | | | | | | | | | | |

* + 1. System Disk

Check the lifetime and status of the system disk, as well as the I/O speed.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Host | Model | Capacity | System Disk Status | Lifetime | Read/Write Rate | Weather Only Read | Impact and Recommendations |
| {%tr if “sys\_ssd” in hardware\_health\_check\_que%} | | | | | | | |
| {%tr for item in hardware\_health\_check\_que.sys\_ssd%} | | | | | | | |
| {{item.host}} | {{item.model.i}}{{r item.model.v}} | {{item.SSD\_size.i}}{{r item.SSD\_size.v}} | {{item.SSD\_status.i}}{{r item.SSD\_status.v}} | {{item.SSD\_lifeper.i}}{{r item.SSD\_lifeper.v}} | {{item.SSD\_velocity.i}}{{r item.SSD\_velocity.v}} | {{item.only\_read.i}}{{r item.only\_read.v}} | {{r item.suggestion}} |
| {%tr endfor%} | | | | | | | |
| {%tr else %} | | | | | | | |
| No issue exists | | | | | | | |
| {%tr endif%} | | | | | | | |

* + 1. RAID Card Health

Check the status and mode of the RAID card, check for compatibility SPs of the RAID card, detecting whether the RAID card supports hot swap

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Host | Description | Status | RAID card hot plug support detection | RAID Card Compatibility Patch | Impact and Recommendations |
| {%tr if “raid” in hardware\_health\_check\_que%} | | | | | |
| {%tr for item in hardware\_health\_check\_que.raid%} | | | | | |
| {{item.host}} | {{item.description.i  }}{{r item.description.v  }} | {{item.status.i}}{{r item.status.v}} | {{item.raid\_hot\_plug.i  }}{{r item.raid\_hot\_plug.v  }} | {{item.check\_raid\_compatibility\_patch.i  }}{{r item.check\_raid\_compatibility\_patch.v  }} | {{r item.suggestion}} |
| {%tr endfor%} | | | | | |
| {%tr else %} | | | | | |
| No issue exists | | | | | |
| {%tr endif%} | | | | | |

* + 1. Node Interface

Check whether the node interface has packet loss issues, whether the interface is in full-duplex mode, whether the negotiated rate of the interface is the same as its actual rate, whether the network cable is properly plugged, and whether the transfer rate meets the requirements.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Host | Network interface | Transfer rate | Link mode | Interface is not well plugged or down | Full-duplex mode | Packet loss | Error Packet |
| {%tr if “interfaces” in hardware\_health\_check\_que%} | | | | | | | |
| {%tr for item in hardware\_health\_check\_que.interfaces%} | | | | | | | |
| {{item.host}} | {{item.interface.i}}{{r item.interface.v}} | {{item.if\_speed.i  }}{{r item.if\_speed.v}} | {{item.conn\_mode.i}}{{r item.conn\_mode.v}} | {{item.if\_online.i}}{{r item.if\_online.v}} | {{item.full\_duplex.i}}{{r item.full\_duplex.v}} | {{item.if\_lost.i}}{{r item.if\_lost.v}} | {{item.error\_package.i}}{{r item.error\_package.v}} |
| {%tr endfor%} | | | | | | | |
| {%tr else %} | | | | | | | |
| No issue exists | | | | | | | |
| {%tr endif%} | | | | | | | |

* 1. Summary of Issues

Issues detected during health check are summarized here. The numbers of critical issues (icon: ), and non-critical issues (icon: ) are displayed by the check entity.



|  |  |  |
| --- | --- | --- |
| Check Entity | Critical Issues | Non-critical Issues |
| {%tr if class\_que%} | | |
| {%tr for item in class\_que%} | | |
| {{item.class\_name}} | {{item.urgent\_total }} | {{item.common\_total }} |
| {%tr endfor%} | | |
| {%tr endif%} | | |

* 1. Issues of HCI Hardware Health

The table below lists detected issues of HCI node hardware, covering CPU, memory, SSD, HDDs, RAID cards, and interfaces. Corresponding recommendations are also provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Severity | Entity | Issue | Impact and Recommendations |
| {%tr if hardware\_health\_que%} | | | | |
| {%tr for item in hardware\_health\_que%} | | | | |
| {{item.num}} | {{item.level.icon}} | {{item.check\_name}} | {{r item.result }} | {{r item.suggestion }} |
| {%tr endfor%} | | | | |
| {%tr else %} | | | | |
| No issue exists | | | | |
| {%tr endif%} | | | | |

* 1. Issues of HCI Hardware Compatibility

The table below lists detected compatibility issues of HCI node hardware, covering CPU, disks, NICs, and RAID cards. Corresponding recommendations are also provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Severity | Entity | Issue | Impact and Recommendations |
| {%tr if hardware\_compatibility\_que%} | | | | |
| {%tr for item in hardware\_compatibility\_que%} | | | | |
| {{item.num}} | {{item.level.icon}} | {{item.check\_name}} | {{r item.result }} | {{r item.suggestion }} |
| {%tr endfor%} | | | | |
| {%tr else %} | | | | |
| No issue exists | | | | |
| {%tr endif%} | | | | |

* 1. Issues of HCI Storage Health

The table below lists issues of HCI storage health, covering virtual storage, replicas, external storage, backup repository, Samba storage, storage environment, storage container, and storage monitoring service. Corresponding recommendations are also provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Severity | Entity | Issue | Impact and Recommendations |
| {%tr if storage\_status\_que%} | | | | |
| {%tr for item in storage\_status\_que%} | | | | |
| {{item.num}} | {{item.level.icon}} | {{item.check\_name}} | {{r item.result }} | {{r item.suggestion }} |
| {%tr endfor%} | | | | |
| {%tr else %} | | | | |
| No issue exists | | | | |
| {%tr endif%} | | | | |

* 1. Issues of Key HCI Services

The table below lists detected issues of key services in the HCI system. Corresponding recommendations are also provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Severity | Entity | Issue | Impact and Recommendations |
| {%tr if key\_service\_que%} | | | | |
| {%tr for item in key\_service\_que%} | | | | |
| {{item.num}} | {{item.level.icon}} | {{item.check\_name}} | {{r item.result }} | {{r item.suggestion }} |
| {%tr endfor%} | | | | |
| {%tr else %} | | | | |
| No issue exists | | | | |
| {%tr endif%} | | | | |

* 1. Issues of System Configurations

The table below lists detected issues of system configurations, covering interface configuration, VM backup configuration, and license key validity. Corresponding recommendations are also provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Severity | Entity | Issue | Impact and Recommendations |
| {%tr if config\_que%} | | | | |
| {%tr for item in config\_que%} | | | | |
| {{item.num}} | {{item.level.icon}} | {{item.check\_name}} | {{r item.result }} | {{r item.suggestion }} |
| {%tr endfor%} | | | | |
| {%tr else %} | | | | |
| No issue exists | | | | |
| {%tr endif%} | | | | |

* 1. Issues of VM Health

The table below lists detected issues of VM health, covering configuration profile, resource usage, and backup repository. Corresponding recommendations are also provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Severity | Entity | Issue | Impact and Recommendations |
| {%tr if vm\_run\_status\_que%} | | | | |
| {%tr for item in vm\_run\_status\_que%} | | | | |
| {{item.num}} | {{item.level.icon}} | {{item.check\_name}} | {{r item.result}} | {{r item.suggestion}} |
| {%tr endfor%} | | | | |
| {%tr else %} | | | | |
| No issue exists | | | | |
| {%tr endif%} | | | | |

* 1. Issues of HCI Network

The table below lists detected issues of HCI network health, covering physical network, virtual network, and network environment. Corresponding recommendations are also provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Severity | Entity | Issue | Impact and Recommendations |
| {%tr if net\_status\_que%} | | | | |
| {%tr for item in net\_status\_que%} | | | | |
| {{item.num}} | {{item.level.icon}} | {{item.check\_name}} | {{r item.result }} | {{r item.suggestion}} |
| {%tr endfor%} | | | | |
| {%tr else %} | | | | |
| No issue exists | | | | |
| {%tr endif%} | | | | |

* 1. Issues of HCI Service Packs

The table below lists unpatched HCI service packs. Corresponding recommendations are also provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Severity | Entity | Issue | Impact and Recommendations |
| {%tr if warning\_patch\_que%} | | | | |
| {%tr for item in warning\_patch\_que%} | | | | |
| {{item.num}} | {{item.level.icon}} | {{item.check\_name}} | {{r item.result }} | {{r item.suggestion }} |
| {%tr endfor%} | | | | |
| {%tr else %} | | | | |
| No issue exists | | | | |
| {%tr endif%} | | | | |

* 1. Issues of HCI Security

The table below lists detected issues of HCI security, covering access permissions, password validity, port management, account login time, and JG SPs. Corresponding recommendations are also provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Severity | Entity | Issue | Impact and Recommendations |
| {%tr if safe\_que%} | | | | |
| {%tr for item in safe\_que%} | | | | |
| {{item.num}} | {{item.level.icon}} | {{item.check\_name}} | {{r item.result }} | {{r item.suggestion }} |
| {%tr endfor%} | | | | |
| {%tr else %} | | | | |
| No issue exists | | | | |
| {%tr endif%} | | | | |

1. HCI Resources
   1. HCI Resource Details
      1. Node Resources

The table below lists node information.

|  |  |  |
| --- | --- | --- |
| Node IP | Check Item | Detail |
| {%tr if physical\_host\_resource%} | | |
| {%tr for phy\_dict in physical\_host\_resource%} | | |
| {%tr for host, phy\_data in phy\_dict.items() %} | | |
| {%tr for item in phy\_data%} | | |
| {%vm%}{{host}} | {{item.name}} | {{item.info}} |
| {%tr endfor%} | | |
| {%tr endfor%} | | |
| {%tr endfor%} | | |
| {%tr endif%} | | |

* + 1. Node Load

**CPU usage rate**: refers to the percentage of CPU processing power occupied when the CPU is executing a task.

**CPU configuration ratio**: refers to the ratio of available CPU cores to the actual number of CPU cores used in the system. For example, if there are 8 CPU cores in the system, but only 4 cores are used, the CPU configuration ratio is 50%. The CPU configuration ratio is usually used to evaluate whether the hardware configuration of the system is reasonable, and whether it is necessary to increase or decrease the number of CPU cores.

**CPU load**: refers to the length of the task queue that the CPU is running, that is, the number of tasks waiting for CPU processing.

**Overall load**: usually expressed as a percentage, it represents the proportion of CPU processing power occupied by tasks running on the CPU.

The explanation for memory usage rate and load is the same.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Node Name | Management Interface IP | CPU Usage | CPU Allocation | CPU Load | Memory Usage | Memory Allocation | Memory Load | Weighted Demand (CPU& Mem) |
| {%tr if host\_load\_resource%} | | | | | | | | |
| {%tr for item in host\_load\_resource%} | | | | | | | | |
| {{item.name}} | {{item.ip}} | {{item.cpu\_ratio}} | {{item.cpu\_conf\_used\_ratio}} | {{item.cpu\_load}} | {{item.mem\_ratio}} | {{item.mem\_conf\_used\_ratio}} | {{item.mem\_load}} | {{item.comprehensive\_load}} |
| {%tr endfor%} | | | | | | | | |
| {%tr endif%} | | | | | | | | |

* + 1. Cluster CPU, Memory, and Disk Resources

In use, it will include both platform in use and virtual machine in use. Only virtual machines have been configured, so there may be situations where the configured value is smaller than the used value.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Entity | | Total | Configured | Used | Usage | Overcommitment Ratio | Result |
| {%tr if cluster\_resource%} | | | | | | | |
| {%tr for item in cluster\_resource%} | | | | | | | |
| {{item.check\_item}} | | {{item.total}} | {{item.configured}} | {{item.used}} | {{item.usage\_ratio.value}} | {{item.over\_ratio.value}} | {{item.level}} |
| {%tr endfor%} | | | | | | | |
| Suggestion | {{cluster\_resource\_suggestion}} | | | | | | |
| {%tr endif%} | | | | | | | |

* + 1. Scalable Resources

The table below displays details about PCIe slots, disk slots, memory slots, and interfaces.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Node IP | Entity | Total | Used | Usable Resources |
| {%tr if open\_end\_detail\_list%} | | | | |
| {%tr for open\_end\_detail\_dict in open\_end\_detail\_list %} | | | | |
| {%tr for host,open\_end\_detail in open\_end\_detail\_dict.items() %} | | | | |
| {%tr for item in open\_end\_detail%} | | | | |
| {%vm%}{{host}} | {{item.name}} | {{item.total}} | {{item.used}} | {{item.open\_end}} |
| {%tr endfor%} | | | | |
| {%tr endfor%} | | | | |
| {%tr endfor%} | | | | |
| {%tr endif%} | | | | |

* + 1. Virtual Storage Resources

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Virtual Storage Name | Total Space | Remaining Space | Usage | Impact and Recommendations |
| {%tr if check\_virtual\_storage%} | | | | |
| {%tr for item in check\_virtual\_storage%} | | | | |
| {{item.vs\_name}} | {{item.total}} | {{item.avail}}{{item.avail\_level}} | {{item.usage\_ratio}}{{item.usage\_ratio\_level}} | {{item.suggestion}} |
| {%tr endfor%} | | | | |
| {%tr endif%} | | | | |

* + 1. Other Storage Resources

The table below displays details about resources, including local storage, external storage, FC storage, iSCSI storage, and NFS datastores.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Status | Name | Type | Total | Available | Max Read Speed | Max Write Speed | Connected Nodes |
| {%tr if other\_storage\_detail%} | | | | | | | |
| {%tr for item in other\_storage\_detail%} | | | | | | | |
| {{item.status}}{{item.level}} | {{item.name}} | {{item.type}} | {{item.total}} | {{item.avail}} | {{item.maxread}} | {{item.maxwrite}} | {{item.hosts}} |
| {%tr endfor%} | | | | | | | |
| {%tr endif%} | | | | | | | |

* + 1. Backup Repository

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Size | Remaining Space | Usage | Impact and Recommendations |
| {%tr if backup\_pool%} | | | | |
| {%tr for item in backup\_pool%} | | | | |
| {{item.name}} | {{item.total}} | {{item.avail}}{{item.avail\_icon}} | {{item.ratio}} | {{item.suggestion}} |
| {%tr endfor%} | | | | |
| {%tr endif%} | | | | |

* + 1. License Key Validity

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Component | License Key Validity | Expiration Date | Remaining Days |
| {%tr if sn\_vaild%} | | | | |
| {%tr for item in sn\_vaild%} | | | | |
| {{item.num}} | {{item.object}} | {{item.key\_online}}{{item.key\_online\_level}} | {{item.sn\_date}} | {{item.sn\_last\_date}}{{item.sn\_last\_date\_level}} |
| {%tr endfor%} | | | | |
| {%tr endif%} | | | | |

* + 1. System Partition

The table below displays details about system partitions of HCI, covering the configuration profile, space, etc.

|  |  |  |  |
| --- | --- | --- | --- |
| Node | Partition | Description | Impact and Recommendations |
| {%tr if sys\_partition%} | | | |
| {%tr for item in sys\_partition%} | | | |
| {%tr for k,v in item.partition.items()%} | | | |
| {%vm%}{{item.host}} | {{k}} | {{v.result}}{{v.level}} | {{v.suggestion}} |
| {%tr endfor%} | | | |
| {%tr endfor%} | | | |
| {%tr endif%} | | | |

* 1. VM Resource Details
     1. VM Overview

|  |  |
| --- | --- |
| {%tr if vms\_info%} | |
| Total VMs | {{vms\_info.total}} |
| Critical VMs | {{vms\_info.important\_total}} |
| Backed-up VMs | {{vms\_info.backup\_total}} |
| Powered-on VMs | {{vms\_info.on\_total}} |
| Installed vmTools Operation | {{vms\_info.on\_vmtools\_total}} |
| On HA Status | {{vms\_info.ha\_total}} |
| {%tr endif%} | |

* + 1. CPU, Memory, and I/O Usages of High-Priority VMs

The table below displays the CPU, memory, and I/O usages of high-priority VMs for resource usage analysis. If the resource usage of VMs is high but no abnormal process occupies resources, you are advised to allocate more resources to VMs. If abnormal processes exist, handle these processes. In this case, you are not advised to allocate more resources to VMs (Temporary increase of resources is allowed to ensure service operation. However, you need to troubleshoot abnormal processes to solve the problem.).

|  |  |  |  |
| --- | --- | --- | --- |
| VM Name | CPU Usage | Memory Usage | I/O Usage |
| {%tr if important\_vms\_ratio%} | | | |
| {%tr for vm in important\_vms\_ratio%} | | | |
| {{vm.name}} | {{vm.cpu\_ratio}} | {{vm.mem\_ratio}} | {{vm.io\_ratio}} |
| {%tr endfor%} | | | |
| {%tr endif%} | | | |

1. Solutions

The solutions should be provided based on the check results of all check entities and resource information. Recommendations given in previous sections should also be taken into consideration.

1. Appendix
   1. Technical Support

For routine O&M issues, please contact Sangfor Technical Support at +60 12711 7129 (7511) or visit Sangfor Community ([https://community.sangfor.com](http://bbs.sangfor.com/)).